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WESTMORLAND COUNTY COUNCIL



ANNUAL REPORT

OF THE

COUNTY MEDICAL
OFFICER OF HEALTH

THE YEAR 1947

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County of Westmorland

Public Health Department,

County Hall, Kendal.

March, 1949.

Mr. Chairman, Ladies and Gentlemen,

I have the honour to present my Annual Report for the year 1947. Once again there are several staff changes which are reported in detail on page 5. Chief of these was the resignation on 31st March, 1947, of Dr. J. M. L. Wright, who joined the staff of the Department in 1930 as Assistant County Medical Officer and who served during the war years as Joint County Medical Officer. Her services, particularly as oculist, will be missed and I wish her well in her new appointment.

There has been a slight increase in the population during the year and the excess of live births over deaths was 312. The Birth Rate of 18.89, though still below that for England and Wales, again showed a slight increase and created a new record for the County. The Death Rate was 14.06 per 1,000 of the population, as against 12.0 for the country as a whole. The commonest causes of death were heart disease, cerebral haemorrhage and cancer, in that order. There were no deaths due to or arising out of pregnancy or parturition. The Infantile Mortality Rate showed the low figure of 22.09 per 1,000, compared with 41.0 for England and Wales. It is difficult to point to any one factor which in itself is outstandingly responsible for this improvement, but credit must undoubtedly be given to the high level of professional skill shown by the general practitioners and midwives within the County, and to the Council's Infant Welfare and Maternity Services. In connection with the Maternity and Child Welfare Service, the number of domiciliary midwives qualified to use Gas and Air Analgesia has increased and the number of patients who were able to benefit from this increased from 122 to 204 during the past year. There has also been an increase in the attendance at the Infant Welfare Centres from 2,094 to 3,365—in other words, by one-third—in the course of a year.

The Report of the Senior Dental Officer indicates that the time given to the Dental Care of Expectant and Nursing Mothers increased by 20 per cent. compared with 1946, but owing to the difficulty experienced in retaining the services of the Dental Officers it is doubtful whether this improvement can be maintained.

With regard to infectious disease, the most notable feature of the year was the increase in the number of cases of acute poliomyelitis, the rise being from 3 to 23.

There were four cases of diphtheria, all of which occurred in un-immunised persons and, of these, two were summer visitors.

This year has seen the preparation of this Local Authority's proposals under Part III of the National Health Service Act, 1946, and although these proposals and their operation will be dealt with more fully in the report for 1948 it may be here noted that on the "appointed day"—5th July, 1948—it was possible to put all the schemes into operation without delay, and though some of the Schemes will of necessity take some time to acquire a full measure of efficiency the resources have in general been sufficient to meet the demand.

I would like to thank the Committee for its continued support and the staff of the Department for their loyalty.

I have the honour to be,

Your obedient Servant,

JOHN A. GUY,

County Medical Officer of Health.

PUBLIC HEALTH OFFICERS OF THE AUTHORITY

IN 1947

Name.	Qualifications.	Office.	Whole or Part Time.	Other Offices.
John A. Guy	.. M.D., D.P.H.	Connty Medical Officer	Whole	School Medical Officer.
J. M. L. Wright	.. L.R.C.P. & S. Ed., L.R.F.P. & S. Glas. D.P.H.	Asst. County Medical Officer (Resig. 31.3.47)	Whole	Asst. School Medical Officer,
J. Berkeley	.. M.B., Ch.B., D.P.H.	Senior Asst. County Medical Officer (Appointed 19.5.47)	Whole	Senior Asst. School Medical Officer.
F. M. Taylor	.. M.R.C.S., L.R.C.P., Lond.	Asst. County Medical Officer	Whole	Asst. School Medical Officer.
J. Munro Campbell	.. M.B., Ch.B., D.P.H.	.. Tuberculosis Officer	Part	Medical Superintendent, Meathop Sanatorium.
John Irvine	.. L.D.S.	.. Senior Dental Officer.	Part	Senior School Dental Officer
D. H. Watson	.. L.D.S.	.. Assist. Dental Officer.	Part	Assist. School Dental Officer
W. McGregor Morton	.. L.D.S.	.. Assist. Dental Officer. (Resigned 31.1.47)	Part	Assist. School Dental Officer
C. Parkinson	.. L.D.S.	.. Assist. Dental Officer. (Appointed 1.2.47)	Part	Assist. School Dental Officer
A. M. A. Medley	.. Social Science Dip., Lond...	County Social Worker (Appointed 15.1.47).	Whole	

STATISTICS AND SOCIAL CONDITIONS OF THE AREA.

Area (in acres, land and inland water)	...	...	504,917
Population (Registrar-General's estimate of Resident Population, mid-1947)	...	...	64,690
Total Rateable Value as on 1st April, 1947	...	£453,351 0s. 0d.	
Estimated product of a Penny Rate (General County) for the financial year 1947-8	...	£1,787 0s. 0d.	

EXTRACTS FROM VITAL STATISTICS IN THE YEAR 1947.

	Total.	Males.	Females.
Live Births—Legitimate	... 1,147	603	544
Illegitimate	... 75	31	44
	—	—	—
Total births	... 1,222	634	588
	—	—	—

Birth Rate per 1,000 of the estimated resident population, 18.89.

Birth Rate, England and Wales, 20.5.

	Total.	Males.	Females.
Stillbirths	... 42	25	17
Rate per 1,000 total live and stillbirths,	33.23.		

	Total.	Males.	Females.
Deaths	... 910	458	452

Death Rate per 1,000 of the estimated resident population, 14.06.

Death Rate England and Wales, 12.0.

Deaths from Diseases and Accidents of Pregnancy or Child-birth:—

Puerperal Sepsis	...	...	...	Nil.
Other Puerperal Causes	...	...	...	Nil.

Rate per 1,000 total (live and still) births, for the purpose of calculating Maternal Mortality, Nil.

Maternal Mortality Rate, England and Wales, per 1,000 total (live and still) births, 1.17.

Death Rate of Infants under one year of age:—

All infants per 1,000 total live births	...	...	22.09
Legitimate infants per 1,000 legitimate live births	...	...	20.05
Illegitimate infants per 1,000 illegitimate live births	...	...	53.33

Infant Death Rate, England and Wales, 41.

Deaths from—	1946.	1947.
Cancer (all ages)	... 112	137
Measles (all ages)	... —	—
Whooping Cough (all ages)	... —	1
Diarrhoea (under two years)	... 2	2

POPULATION, 1947.

DISTRICT.	Area in acres (Land and Inland Water).	Population.
		Registrar General's estimate Mid.-1947.
URBAN.		
Appleby	1,877	1,656
Lakes ...	49,917	5,173
Kendal	3,705	18,460
Windermere ...	9,723	6,451
RURAL.		
North Westmorland	288,688	15,910
South Westmorland	151,007	17,040
Westmorland ...	504,917	64,690

BIRTH RATE, 1946 and 1947.

Birth Rate per 1,000 estimated resident population:

District.				Birth Rate 1946.	Birth Rate 1947.
Urban.					
Appleby	..	..	..	20.5	24.8
Kendal	..	..	..	17.6	19.7
Lakes	..	..	..	13.3	13.1
Windermere	..	..	..	17.1	18.7
Rural.					
North Westmorland			..	20.5	20.7
South Westmorland			..	18.5	17.5
Westmorland	..	..	..	18.2	18.9
England & Wales	..	..	..	19.1	20.5

The Births registered in the last five years were as follows:—

Year	...	...	1943	1944	1945	1946	1947
No. of births		...	989	1,050	946	1,179	1,222

TABLE I.

DEATH RATE 1945, 1946 and 1947.

Death Rate per 1,000 estimated average population.

District.			Death Rate 1945.	Death Rate. 1946.	Death Rate. 1947.
URBAN.					
Appleby	...	...	17.5	15.6	19.3
Kendal	...	...	12.4	10.9	12.4
Lakes	...	...	10.1	12.0	17.2
Windermere	...	...	12.7	14.1	12.7
RURAL.					
North Westmorland	...	...	13.2	14.3	14.9
South Westmorland	...	...	12.8	11.9	14.1
WESTMORLAND	...	...	12.6	12.7	14.1
ENGLAND and WALES	...	...	11.4	11.5	12.0

The chief causes of death in Westmorland in 1945, 1946 and 1947, in order of maximum fatality in 1947, were as follows:—

			No. of deaths 1945.	No. of deaths 1946.	No. of deaths 1947.
Heart Disease	...	...	245	236	282
Cerebral Haemorrhage	...	...	133	139	140
Cancer	...	...	104	112	137
Bronchitis	...	...	44	29	39
Nephritis	...	...	23	28	32
Digestive Diseases	...	...	22	20	31
Other circulatory diseases	...	...	19	18	30
Violence	...	...	30	23	24
Pneumonia	...	...	12	14	23
Tuberculosis of respiratory system	...	...	8	16	16
Other forms of Tuberculosis	...	...	9	8	6

MATERNITY AND CHILD WELFARE.

TABLE II.

INFANTILE MORTALITY. (Under 1 Year.)

Rate per 1,000 Live Births.

District.		1945.	1946.	1947.
URBAN.				
Appleby	... ..	—	29.4	24.4
Kendal	... ..	36.0	28.0	35.7
Lakes	... ..	17.3	14.3	44.0
Windermere	... ..	34.0	71.4	8.2
RURAL.				
North Westmorland	... ..	43.0	42.8	24.4
South Westmorland	... ..	45.0	19.1	36.8
WESTMORLAND	... ..	38.05	33.07	22.09
ENGLAND and WALES	... ..	46.0	43.0	41.0

ILLEGITIMATE INFANT DEATH RATE.

Rate per 1,000 illegitimate Live Births.

		1945	1946.	1947.
WESTMORLAND	... ..	40.8	43	40
ENGLAND and WALES	... ..	66	60	59

Causes of Death in Infants under 1 year in 1947, including
the Borough of Kendal:

					Number of Deaths.
Prematurity	... ..	...	...	...	17
Infections	... ..	...	...	...	10
Congenital abnormalities	... ..	...	...	...	8
Conditions consequent on difficult birth	... ..	...	...	...	3
Asphyxia due to accidents	... ..	...	...	...	1

DISTRICT MIDWIFERY, INFANT WELFARE, HEALTH VISITING AND HOME NURSING.

During 1947 a grant of £11,106 9s. 4d. was made to the District Nursing Associations from the County Council in respect of the following duties undertaken on behalf of the Council:—

Maternity and Child Welfare Health Visiting.

Tuberculosis After-Care Visiting.

School Nursing.

Midwives Act Services.

Health Visiting is carried out by 35 District Nurses, who are supplied with cars. The whole County area is thus covered.

Domiciliary Maternity Nursing.

		1947.	1946.	1945.
No. of Midwifery cases	...	173	178	165
No. of Maternity cases	...	238	247	207
		411	425	372

No. of Domiciliary Midwives who hold Analgesia Certificates ... 22

No. of Cases in which Gas Air Analgesia was administered by
Domiciliary Midwives ... 204

Infant Welfare.

	1947.	1946.	1945.
No. of Infants under one year visited	690	686	560
Total Health Visits to Infants under 1 year	6,267	6,597	6,780
Total Health Visits to Children 1-5 years	6,721	7,722	6,940

Immunisation Against Diphtheria.

No changes have been made in the arrangements for carrying out this important measure.

No. of children immunised during the year 1947:—

Area.	0-4 years.	5-14 years.	Total under 15 years.
Appleby ...	23	19	42
Lakes ...	59	102	161
Windermere ...	77	72	149
North Westmorland ...	297	263	560
South Westmorland ...	204	216	420
Borough of Kendal ...	266	196	462
Total for County ...	926	868	1,794

These figures include "booster" doses or re-immunisations.

Infant Welfare Centres.

Three additional centres have been opened this year at Kirkby Lonsdale, Temple Sowerby and Orton. Once again one would like to thank the local branches of the British Red Cross and St. John Associations, and all the other voluntary workers, for their services in connection with the running of these centres.

Attendances at Clinics.

		1947.	1946.	1945.
Under 1 year	...	1,711	901	915
Over 1 year	...	1,654	1,193	1,347
Average per session	...	19.9	20.4	22

Care of Illegitimate Children.

The problem of the unmarried mother and her child continues to receive active and sympathetic consideration, and increased co-operation between the Local Authority and voluntary agencies has yielded good results. Although the numbers are comparatively small, intensive personal help is required in each case and it is the Social Worker's duty to offer to the unmarried mother every possible assistance to enable her to regain a position of security in the community. Having made arrangements for the confinement, either in a maternity home or, if the girl prefers it, in her own home, the Social Worker must then help the mother to come to a decision about the future of the baby. If she wishes to keep her child, she is encouraged to do so, and if she cannot keep her child in her own home the Social Worker finds a suitable resident post where mother and baby can be together, or arranges for the child to be placed in the care of an approved foster mother. If the mother decides upon adoption, arrangements are made through the Local Authority or an approved Adoption Society.

Births of Illegitimate Children notified	...	34
		—
Mother keeping baby in own home	...	26
Mother found resident post with baby	...	2
Adoptions arranged or pending	...	5
Baby still with mother in Institution	...	1
		—
		34
		—

Deprived Children.

(a) Children maintained by Local Authorities under the Acts and Regulations relating to the Poor Law:—

Private Homes	...	12
Abbey Home, Staveley	...	53 (31 boys, 22 girls)

(b) Children brought before the Courts as delinquent or in need of care or protection and required by the Courts to live elsewhere than in their own homes:—

	Boys.	Girls.	Total.
Committed to Approved Schools ...	2	3	5
Committed to care of Local Authority ...	1	—	1

(c) Healthy children maintained by Local Authorities under the Public Health Act:—

	Boys.	Girls.	Total.
Brantfield Residential Nursery ...	3	9	12

(d) Children cared for by Voluntary Organisations:—

Howard Home, Kendal ...	28 (girls)
St. Mark's Home, Natland	20 (boys)
St. Anne's Home, Ambleside ...	13 (girls and small boys)
Liverpool Orphanage, Ambleside	50 (girls and small boys)

Care of Premature Infants.

The following table illustrates the state of premature infants within the County during 1947:—

Premature births notified in 1947	...	...	30
No. of domiciliary births	...	...	7
No. who died within 24 hours	...	...	1
No. who survived one month	...	...	4
No. of Hospital births	...	...	23
No. who died within 24 hours	...	...	1
No. who survived one month	...	...	19

School Nursing, Tuberculosis Visiting and Infant Life Protection Visiting.

No change has been made in these services during the past year.

Supervision of the Work of Midwives.

There has been no change here during the past year.

REGISTRATION OF NURSING HOMES.

(Sections 187 to 194 of the Public Health Act, 1936.)

There were nine registered homes at the end of the year providing beds for 77 maternity patients and 71 other patients. They have been inspected and found to be satisfactorily run.

SCHEME FOR ANTE-NATAL AND POST-NATAL MEDICAL SUPERVISION OF MIDWIVES' CASES.

The old scheme whereby patients received two ante-natal and one post-natal examination was revised during the year, and from August, 1947, all patients coming within the scheme received complete medical supervision throughout pregnancy, involving an approximate number of six visits by the doctor per case. The agreed fee to the private practitioners, by whom the work was undertaken, was £2 2s. per case, plus the usual mileage allowance.

The number of women who received ante-natal supervision under the County Council scheme during the year was 339.

DENTAL TREATMENT FOR EXPECTANT AND NURSING MOTHERS.

Report of the Senior Dental Officer for Year ended 31-12-47.

During the year 61 patients presented themselves for treatment at the dental clinics, the majority being from the Kendal area. After the introduction of the new Basic Income Scale in June the numbers of women eligible for treatment increased steadily. Patients were encouraged by the Medical Officers to have a routine dental inspection immediately following the first ante-natal examination and, as a result of this, many more cases of early caries were detected by the Dental Officers and conservation treatment given.

No. of patients attending for treatment	...	...	61
No. of attendances made by patients	...	...	175
Extractions	...	...	133
General Anaesthetics administered	...	...	15
Fillings	...	...	48
Dressings	...	...	16
Scalings	...	...	13
Other Operations	...	...	43
Dentures	...	...	15
Denture repairs	...	...	3
Sessions devoted to work	...	...	60

THE PUERPERAL PYREXIA REGULATIONS, 1939.

During 1947, two cases of Puerperal Pyrexia were notified (see Tables, Notifiable Diseases, page 24). Both cases were nursed at home.

MATERNITY HOSPITAL ACCOMMODATION.

Westmorland County Hospital.

The Maternity Block has eight beds which serve for abnormal cases requiring special treatment, and as an overflow from Helme Chase Maternity Home when required.

The Council's Institution at Kendal has one Maternity Ward: eight maternity cases were undertaken by this Institution. One maternity case was undertaken at the Kirkby Stephen Institution.

Helme Chase Maternity Home, Kendal.

During 1947 410 patients were admitted and 83 cases received a grant towards cost of their maintenance under the Westmorland County Council Scheme. The increasing number of applications for admission to this Home and the shortage of nursing and domestic staff has thrown a great strain on this establishment.

Cumberland County Council Maternity Home, Penrith.

Two beds in this Home are available for Westmorland County Council cases. This has been a great advantage to patients living in North Westmorland. During 1947, 20 Westmorland patients were admitted.

City General Hospital Maternity Block, Carlisle.

Patients are admitted to the above Hospital from the North of the County, through the courtesy of Carlisle Corporation, on account of abnormalities or emergencies arising as the result of pregnancy; 17 Westmorland patients were admitted during 1947.

Lancaster Royal Infirmary.

Eleven patients from the South of the County were admitted to Lancaster Royal Infirmary. All these cases had attended the Antenatal Clinic there.

St. Monica's Maternity Home for Unmarried Mothers.

(Carlisle Diocesan Maternity Home.)

The Home possesses 23 maternity beds. Sixty-two maternity cases were admitted in 1947; six of these were Westmorland cases.

Sacred Heart Maternity Home, Brettargh Holt, nr. Kendal.

The Home possesses 40 maternity beds. One hundred and twenty-nine maternity cases were admitted in 1947; six of these were Westmorland cases.

INFANT LIFE PROTECTION.

All cases falling within this category receive an initial visit by the Social Worker and are thereafter regularly reported upon by the District Nurses in their capacity of Infant Life Protection Visitors. In the County during 1947 the figures were as follows:—

Number of persons on the Register who were receiving children for reward at the end of the year:—

In private homes	...	...	11
In schools	...	...	20

Number of children on the Register:—

(a) At the end of the year—

In private homes	...	...	13
In schools	...	...	179
			<hr/>
			192
			<hr/>

(b) Who died during the year ... Nil.

MIDWIVES ACTS, 1902, 1917 and 1936.

Total number of Midwives practising at the end of the year	...	...	...	...	56
District Nurses	...	...	...	...	34

Nurses in Institutions and in private practice, 20, viz.:—

(a) Westmorland County Hospital	...	...	3
(b) Helme Chase Maternity Home	...	...	2
(c) St. Monica's Maternity Home, Kendal	...	...	3
(d) Brettargh Holt	...	...	3
(e) Kendal Institution	...	...	1
(f) Private Practice:—			
Institutions	...	...	6
Domiciliary	...	...	2

Whole-time salaried Midwives employed by the County Council working in Kendal, 2.

Midwives Notification Forms received during 1947 were as follows:—

Notification of liability to be a source of infection ...	1
Notification of sending for Medical Aid	193
Notification of Artificial Feeding	4
Notification of Stillbirth	4
Notification of Death	4

Maternity Cases attended during 1947 were as follows:—

	As Midwives without a doctor.	As Mater- nity Nurses with a doctor.
Domiciliary Cases.		
In the County of Westmorland by the District Nurses ...	173	238
In the Borough of Kendal by the County Council Midwives ...	56	32
	<hr/> 229 <hr/>	<hr/> 270 <hr/>

	As Midwives without a doctor.	As Mater- nity Nurses with a doctor.
Cases in Institutions.		
Westmorland County Hospital ...	22	48
Helme Chase Maternity Home ...	155	245
County Council Institutions ...	6	3
Private Nursing Homes ...	6	148
Brettargh Holt Maternity Home	101	—
St. Monica's Maternity Home ...	42	7
	<hr/> 332 <hr/>	<hr/> 451 <hr/>

Gas-Air Analgesia.

During the year the Kendal Midwives have administered Analgesia to 51 cases (Maternity cases 20, Midwifery cases 31).

Twenty District Nurses, acting as Midwives, are now qualified to administer Gas-Air Analgesia.

The policy of the County Nursing Association was to train as many midwives as possible to administer analgesia, those nurses who had the largest number of cases and were anxious to qualify being selected first for the training courses.

BLIND PERSONS ACTS.

Number of persons certified by the Council's Certifying Medical Officer during the year—9.

Number referred for specialist treatment under the Prevention of Blindness Scheme—14.

Total number of Blind Persons on the Roll in December, 1947—100.

ANNUAL REPORT OF THE COUNTY ANALYST.

1. During the 12 months ended the 31st December, 1947, I have analysed 311 samples of Food and Drugs submitted by the Sampling Officer appointed for the County of Westmorland under the Food and Drugs Act, 1938, and by the Chief Sanitary Inspector for the Borough of Kendal.

From the Administrative County Area	...	205
From the Borough of Kendal	...	106
		<hr/> 311

Compared with the year 1946, the number of samples submitted shows an increase of 98, which represents a full year's work since the Borough of Kendal was included in the County of Westmorland for the purposes of the administration of the Food and Drugs Act, 1938.

2. The outcome of the analysis of the samples submitted during 1947, together with the action taken in connection with those which were found not to be of genuine quality or to disclose some irregularity is shown in the following table:—

No. of samples of milk received for analysis	...	235
No. of samples of articles other than milk	...	76
		<hr/> 311
No. of samples adulterated or below standard	..	28
No. of samples of genuine quality, but below standard		24
No. of informal samples	... ..	111
No. of Reference samples taken in course of delivery		2
No. of Appeal samples	... ..	11
No. of samples of doubtful quality	... ..	1
No. of samples of inferior quality	... ..	1
No. of persons cautioned	... ..	3
No. of persons summoned	... ..	5
No. of persons convicted	... ..	2
No. of cases in which no action was taken	...	5
No. of cases noted for further sampling	...	16
No. of cases pending at the end of 1947	...	3
Amount of fines	... ..	£2 5 0
Amount of costs	... ..	4 0

3. The percentage of adulteration for the year ended 31st December last is 9.73; for the twelve months ended the 31st December, 1946, it was 11.7. In each case all samples, either adulterated or below standard, are included, but samples of doubtful and inferior quality are not included, and those of genuine quality although below standard are taken into account in the total number for the purpose of calculation, while reference and appeal samples are excluded.

4. The total number of milk samples received for analysis throughout the year comprised 222 taken in the ordinary course of inspection, of which 84 samples were submitted as informal samples.

Of these, 23 samples were reported as being adulterated or below standard and 26 samples were found to be below standard in non-fatty solids but of genuine quality owing to the figures afforded in the freezing-point test.

Arising from the samples adulterated or below standard, two reference samples taken in course of delivery and 11 appeal samples were submitted for analysis; one of the reference samples was deficient in non-fatty solids and the freezing-point confirmed the presence of extraneous water, and the other one was genuine.

All but one of the appeal samples were of genuine quality in every respect, the one sample which failed to come up to standard contained only 2.55 per cent. of fat.

The average composition of the 172 genuine samples of milk taken throughout the year was:—

Non-fatty solids	...	8.82 per cent.
Fat	...	3.68 per cent.

For the year ended the 31st December, 1946, the average figures for 91 genuine samples were:—

Non-fatty solids	...	8.76 per cent.
Fat	...	3.94 per cent.

It is worthy of note that the average non-fatty solids have increased during the year 1947, in spite of the adverse conditions, both with regard to the availability of feeding stuffs and weather conditions which have prevailed.

Of the samples which were reported as being adulterated or below standard, one sample was deficient both in non-fatty solids and in fat, the freezing-point in this case being minus .524deg. C.; six were deficient in non-fatty solids, with freezing-points ranging from minus .480deg. C. to minus .529deg. C., and two samples were too acid to enable the freezing-point to be conducted accurately and 14 samples were deficient in fat, the range of figures being from 2.12 per cent. to 2.97 per cent.

At the date of this report three samples of milk are the subject of proceedings and the hearing of the informations are pending.

A sample of milk reported as being of doubtful quality gave 8.44 per cent. non-fatty solids, fat 3.80 per cent. and freezing point minus .531deg. C., figures which are not usually met with in genuine milk in which deficient non-fatty solids are due to natural causes.

The percentage of adulteration for milk during 1947 was 11.71; for the year ended the 31st December, 1946, it was 14.40.

5. **Other Samples.** Samples of articles other than milk received for analysis during the 12 months ended the 31st December, 1947, were 86 in number, showing an increase of 17 over the previous year.

The greater number of these consisted of food, or commodities used in the preparation of food, together with spirits and wines.

Apart from five samples, no exception could be taken to either the description or quality of these samples.

The five samples which were the subject of adverse reports comprised one of Ground Nutmegs, which was of inferior quality because of its lack of Volatile Oil, the essential flavouring ingredient of Ground Nutmegs, and this was due, no doubt, to the fact that the sample was packed in a cardboard container and there was no indication as to the conditions under which it had been stored.

Three samples of Sausages, two Beef Sausages and one Pork Sausages, were all deficient in meat content; the Pork Sausages, deficient in meat to the extent of 8.0 per cent., were the subject of a caution, while in the case of one of the samples of Beef Sausages, deficient in meat to the extent of 16 per cent., proceedings were instituted and a fine of £2 was inflicted on conviction.

The other sample of Beef Sausages, which was deficient in meat content to the extent of 25.6 per cent., was also the subject of proceedings and although the Bench found the case proved decided that the infliction of a fine of 5s., with 4s. costs, was a sufficient penalty.

A sample of so-called Malt Vinegar was the third article which proved not to be of genuine quality; this was an informal sample and no proceedings could be taken directly in connection with it, but the suppliers were approached and they admitted that there had been a mistake in labelling, the mistake being rectified as soon as the complaint had been brought to their notice.

In conclusion, it is very satisfactory to be able to record that no cases of infestation by mites, weevils or maggots were detected during the work of the year.

CYRIL J. H. STOCK,
County Analyst.

FOOD AND DRUGS.

Annual Report for the Year 1947.

During the period 1st January to 31st December 1947, in the administrative area of the County, excluding the Borough of Kendal, a total of 208 samples of food were obtained for the purposes of analysis by the Public Analyst.

Of the total number of 208, 180 were of milk and 26 other than milk. One sample of marmalade and two informal samples of milk were broken on arrival at the analytical laboratory, which reduces the total number of samples analysed to 205.

Milk Sampling.

The work in connection with milk sampling during the period under review has been divided between samples purchased from retailers actually delivering milk and informal samples taken from churns of milk in transit to the consignee.

Milk is presumed to contain not less than 3 per cent. fat and not less than 8.5 per cent. non-fatty solids, and if a sample is found to contain less than the standard for non-fatty solids the freezing-point test determines whether or not the milk contains added water or is genuine but below standard.

Unsatisfactory samples are followed up by taking samples from milk produced by the herd of cows milked under supervision. A comparison of analyses of the original and "Appeal to Cow" samples indicates whether the milk as sold is in the same condition as produced.

A summary of the classification of milk samples is given hereunder:—

			Total.	Genuine.	Genuine, but below standard.	Below Standard In Fat.	Added Water.	Doubtful.
Formal—								
Purchased	...	...	87	73	6	5	2	1
At Farm Milk Stands	...	...	7	3	1	1	2	—
Reference or follow up	...	...	3	2	—	—	1	—
Appeal to Cow	...	...	9	9	—	—	—	—
Informal—								
In course of transit	...	...	74	49	17	4	3	1
			—	—	—	—	—	—
Total	...	...	180	136	24	10	8	2
			—	—	—	—	—	—

Prosecutions.	Added Water.	Fine.	Costs.
1 ...	40 per cent. ...	10s. ...	£9 8s. 4d.
Prosecutions pending: 4.			
Persons cautioned: 3.			
Persons noted for further sampling: 11.			

Samples Other than Milk.

The 25 samples analysed consist of five of Whisky, two of Rum and one each of the following:—

Black Pudding.	Beef Sausage.
White Pepper.	Sausage Meat.
Brown-It.	Potted Meat.
Baking Powder.	Malt Vinegar.
Virotabs.	Lemonade Crystals.
Gelatine Powder.	Mashed Potato Powder.
Ground Nutmeg.	Becona (Cereal).
Celery Salt.	Rice Substitute.
Lemon Squash.	National Butter.

Prosecutions.	Beef Sausage.	Fine.	Costs.
1 ...	Deficient in meat content.	5s. 0d. ...	4s. 0d.

The Labelling of Food, Order, 1946.

This Order is designed to protect the purchaser of foods pre-packed specifically for retail sale, by requiring the identity of the packer and the composition and quantity of the food packed to be stated on the wrapper or label.

Amending Orders received during the year are as follows:—

Title.	Substance.
The Labelling of Food Amendment Order, 1947.	Exempts fresh fruits and vegetables (other than potatoes) and single toffee apples from labelling requirements.
Amendment (No. 2) Order, 1947.	Permits a claim on a label and in an advertisement that butter is a natural source of Vitamin A without requiring the quantity to be specified.
General Licence Order, 1947	Permits for a limited period the sale of beer brewed in the United Kingdom free from the labelling requirements.

Eight Circulars
Ten Bulletins

... List and describe over 500 commodities of various brands and sizes in respect of which the Ministry of Food have issued temporary or permanent licences granting exemption from a declaration of weight or measure as required by the Food Labelling Order, 1946.

Inspection duties under this Order are carried out in conjunction with the administration of the Weights and Measures Acts and Regulations. The total number of prepacked articles of food examined during the year amounted to 1,981; the number of technical infringements noted was 149, this being chiefly due to slight deficiencies in purported weights. The labelling infringements were due to shopkeepers neglecting to use new labels, provided by manufacturers, for use on old stocks.

Pharmacy and Poisons Act, 1933.

Pharmacy and Medicines Act, 1941.

The number of listed sellers of poisons included in Part II of the Poisons List in the County on the 31st December, 1947, was 146. The number of inspections made during the period under review was 91. Of six persons cautioned in connection with technical infringements, four made application to become listed sellers and two discontinued the sale of such poisons.

A. BRYANT,

Inspector and Sampling Officer.

NOTIFIABLE DISEASES, 1947.

	Smallpox	Scarlet Fever	Diphtheria	Enteric Fever.	Paratyphoid Fever.	Erysipelas	Pulmonary Tuberculosis	Other Forms of Tuberculosis	Pneumonia	Undulant Fever.	Acute Poliomylitis	Malaria	Amoebic Dysentery	Some Dysentery	Puerperal Pyrexia	Ophthalmia Neonatorum	Measles	Whooping Cough	Encephalitis Lethargica.	Cerebro-Spinal Fever	Acute Polio- Encephalitis
Appleby ..	—	—	—	—	—	2	—	2	—	1	—	—	—	—	—	—	—	—	—	—	—
Kendal ..	—	5	1	—	—	2	18	4	—	—	1	—	—	—	—	—	97	27	1	1	1
Lakes ..	—	1	1	—	—	1	5	1	5	—	1	—	—	—	—	1	48	4	—	—	—
Windermere	—	3	—	—	—	—	6	4	2	—	3	—	—	—	—	—	89	24	—	—	—
N Westmorland	—	7	2	—	—	4	10	4	15	1	15	—	—	—	2	2	229	24	—	1	1
S Westmorland	—	13	—	—	—	2	16	5	5	1	3	—	—	—	—	1	98	43	—	—	—
Totals 1947	—	29	4	—	—	11	55	20	27	3	23	—	—	—	2	4	561	122	1	2	2
Totals 1946	—	51	7	—	—	12	48	21	24	—	3	1	1	20	5	—	44	221	—	3	—

Notifiable Diseases (other than Tuberculosis) during the year 1947.

Ages.	Smallpox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Paratyphoid Fever.	Erysipelas.	Pneumonia.	Undulant Fever	Acute Poliomyelitis.	Malaria	Amoebic Dysentery	Sonne Dysentery	Puerperal Pyrexia.	Ophthalmia Neonatorum.	Measles	Whooping Cough	Encephalitis Lethargica	Cerebro-Spinal Fever	Acute Polio-Encephalitis
Under 1 year ..	—	—	1	—	—	—	—	—	1	—	—	—	—	4	12	15	—	—	—
1 " ..	—	1	—	—	—	—	1	—	2	—	—	—	—	—	28	17	—	—	1
2 " ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46	16	—	—	—
3 " ..	—	2	—	—	—	—	—	—	1	—	—	—	—	—	61	16	—	—	—
4 " ..	—	1	—	—	—	—	—	—	1	—	—	—	—	—	51	11	—	—	—
5 " ..	—	11	—	—	—	—	1	—	3	—	—	—	—	—	272	39	—	1	—
10- " ..	—	11	1	—	—	—	1	—	4	—	—	—	—	—	63	8	—	—	1
15- " ..	—	1	1	—	—	—	1	—	2	—	—	—	—	—	15	—	1	—	—
20- " ..	—	1	1	—	—	1	4	—	7	—	—	—	2	—	11	—	—	—	—
35- " ..	—	1	—	—	—	2	3	1	2	—	—	—	—	—	1	—	—	1	—
45- " ..	—	—	—	—	—	5	11	2	—	—	—	—	—	—	1	—	—	—	—
65 and over ..	—	—	—	—	—	3	5	—	—	—	—	—	—	—	—	—	—	—	—
Total Cases notified	—	29	4	—	—	11	27	3	23	—	—	—	2	4	561	122	1	2	2
Cases admitted to Hospital ..	—	20	3	—	—	—	—	—	19	—	—	—	—	—	2	3	1	2	2
Total Deaths ..	—	—	—	—	—	—	3	—	1	—	—	—	—	—	—	1	1	—	2

NOTIFIABLE DISEASES.

A table will be found on page 25 detailing the incidence of these diseases in 1947. The Registrar-General has supplied figures as to the incidence per 1,000 of the estimated average population of notification of certain diseases in 1947 in England and Wales. In the following table the incidence of notification of these diseases in Westmorland is compared with that of England and Wales:—

Notification Rates per 1,000 of the estimated resident population in 1946 and 1947:—

			Westmorland.		England & Wales.	
			1946.	1947.	1946	1947.
Typhoid Fever	...	...	—	—	0.01	0.01
Paratyphoid Fever	...	...	—	—	0.02	0.01
Cerebro Spinal Fever	...	...	0.04	0.03	0.05	0.05
Scarlet Fever	...	...	0.79	0.45	1.38	1.37
Whooping Cough	...	...	3.42	1.88	2.28	2.22
Diphtheria	...	...	0.10	0.06	0.28	0.13
Erysipelas	...	...	0.18	0.17	0.22	0.19
Smallpox	...	...	—	—	—	—
Measles	...	...	0.68	8.67	3.92	9.41
Pneumonia	...	...	0.37	0.41	0.89	0.79

POLIOMYELITIS.

There were during the year 23 cases of Acute Poliomyelitis, one of whom died, and two cases of Acute Polio-encephalitis, both fatal. Combining the figures for both diseases, the incidence rate was .386 per thousand, and as 16 of the cases occurred in North Westmorland Rural District, the remainder of the County should certainly feel thankful that it escaped so lightly from the general visitation of the disease.

The only instance in which the spread of the infection could be traced along a clearly-defined line occurred in North Westmorland, where the first nine cases arose along the Eden Valley, one of the main lines of communication in the County. The remainder of the cases were scattered over the area with no evidence to indicate any connection between them; many appeared to have been infected whilst on holiday in various parts of the country, some of the cases were visitors who appeared to have been infected before coming to Westmorland, others appeared likely to have been infected by visitors, but in several cases, despite careful investigation by Dr. Madge, the source of infection could not be traced.

CANCER ACT, 1939.

Arrangements were made by the County Council under Section 1 of the above Act and were approved by the Minister of Health on the 24th June, 1942.

Provision has been made for:—

- (a) A clinic for diagnosis and observation after treatment, to be held at the County Hospital, Kendal, once each month, conducted by the Director of the Holt Radium Institute, Manchester.
- (b) Radio-therapeutic treatment and in-patient accommodation at the Holt Radium Institute.
- (c) Surgical treatment and in-patient accommodation at County Hospital, Kendal, and the Christie Hospital and Holt Radium Institute, Manchester.

Number of Clinics held at Kendal during the year ending 31st December, 1947	...	...	...	12
Number of new cases seen	...	...	...	87
Number of follow-up cases seen	...	...	...	170
Number of cases admitted to the County Hospital:—				
New cases	...	...	...	33
Follow-up cases	...	...	...	2
Number of cases admitted to Christie Hospital, Manchester:—				
New cases	...	...	...	24
Follow-up cases	...	...	...	2
Number of cases attending for out-patient treatment at the Christie Hospital, Manchester:—				
New cases	...	...	...	23
Follow-up cases	...	...	...	8

Deaths from Cancer, 1946 and 1947.

	1946.				1947.		
	Males.	Females.	Total.		Males.	Females.	Total.
Urban Districts	25	32	57	...	33	40	73
Rural Districts	22	33	55	...	28	36	64
			<hr/>				<hr/>
Grand Total	...	112			Grand Total	...	137
		<hr/>					<hr/>

TUBERCULOSIS.

In the following table are the figures for the notifications of, and deaths from, Tuberculosis in 1947.

TUBERCULOSIS IN 1947.

Age Periods.	NEW CASES.				DEATHS.			
	Respiratory.		Non-Respiratory.		Respiratory.		Non-Respiratory.	
	M.	F.	M.	F.	M.	F.	M.	F.
0	—	—	1	—	1	—	—	—
1	—	—	2	1	1	—	—	—
5	2	—	2	4	—	—	1	—
15	16	8	—	1	—	—	—	1
25	8	5	1	1	2	3	—	—
35	6	3	1	2	1	3	1	—
45	1	1	1	3	1	2	1	—
55	3	—	—	—	1	1	—	—
65	1	1	—	—	2	—	—	—
TOTAL	37	18	8	12	9	9	3	1
1946	24	24	10	11	8	8	4	5

In 1947, 44 patients were admitted to the Westmorland Sanatorium, Meathop (see page 31.)

Thirteen patients suffering from surgical tuberculosis of the bones or joints received in-patient treatment as follows:—

In the Ethel Hedley Orthopaedic Hospital ...	...	1
In the Oswestry Hospital ...	...	6
In Wrightington Hospital ...	...	3
In Broadgreen Hospital, Liverpool ...	...	3

PULMONARY TUBERCULOSIS—GRANTS.

The Council's scheme was inaugurated on the 1st July, 1943, and six new applications for grants were received and allowed from the 1st January, 1947, to the 31st December, 1947. Eight cases are at present receiving grants.

The scheme has been working satisfactorily. For the above period the following grants were made:—

Maintenance Allowances.	Discretionary Allowances.	Special Payments.	Total.
£586 11 4	£23 17 7	—	£610 8 11

The report which follows has been prepared by Dr. J. Munro Campbell, the Clinical Tuberculosis Officer, who is also Medical Superintendent of the Westmorland Sanatorium, Meathop, and to whom our thanks and appreciation are expressed for his very helpful co-operation.

TUBERCULOSIS SCHEME.

Report of the Tuberculosis Officer.

Under this scheme the Westmorland County Council pay the Board of Governors of Westmorland Sanatorium for services which include the Superintendent acting as Clinical Tuberculosis Officer, the use of the Sanatorium laboratory for examining specimens sent in from the county, the clerical work involved in keeping records and returns, the supplying and taking of X-Ray films in connection with county work, and the treatment of out-patients (e.g., refills).

The main dispensary is at the Chest Clinic, Fellside School, Kendal, where sessions are held on Mondays, 5 p.m. to 6 p.m., and Fridays, 11 a.m. to 1 p.m. A quarterly session is held at the F.A.P., Appleby, from 1-30 p.m. to 3 p.m. on the first Saturday of February, May, August and November, and patients can also be seen, by appointment, at Meathop.

Until February, 1947, all X-Ray work and out-patient treatment for the county was carried out at the Westmorland Sanatorium, but since then the provision of a Solus X-Ray set at the Kendal Clinic has almost entirely relieved the Sanatorium of this work, though the exposed films from the clinic are taken to the Sanatorium for developing, as no provision for this has been made in Kendal. Largely owing to this addition to dispensary equipment, the figures recorded are much higher than ever before. X-Ray films taken numbered 443 and refills to out-patients were over 400.

The number of new cases of pulmonary tuberculosis shows a slight increase at 70, including 15 "transferred in" as compared to 66 and 16 in the previous year.

But this is a comparatively small proportion of the 365 patients sent for investigation during the year. This is the first time a figure of over 300 has been recorded in the county work.

Also, dispensary attendances have been 1,193 which, even allowing for those attending for refills, are still more numerous than in previous years.

The following table shows that the number of patients on the dispensary register at the end of the year is slightly down on the totals for several years past, but not sufficient to warrant any conclusion being drawn.

	Pulmonary.				Non-Pulmonary				Total
	Male	Female	Children		Male	Female	Children		
			Male	Female			Male	Female	
Patients on register 1/1/47	100	76	6	9	12	19	14	13	249
Patients "transferred in"	9	4	0	0	0	1	1	0	15
Lost sight of and cases returned dur- ing year	0	0	0	0	0	0	0	0	0
New Cases T.B.—	8	4	2	0	—	—	—	—	14
New Cases T.B.+ Non-Pulmonary	15	11	0	0	—	—	—	—	26
	—	—	—	—	3	5	3	4	15
Recovered	6	7	1	3	4	3	7	4	35
Died	6	10	0	0	3	1	0	0	20
Removed	10	5	0	0	1	0	0	2	18
Lost sight of, etc.	5	0	0	0	1	0	0	0	6
On register 31/12/47	105	73	7	6	6	21	11	11	240

The pulmonary cases requiring treatment were admitted to Westmorland Sanatorium (see table), though in a few cases transfer to another hospital (such as Chest Unit, Broadgreen Hospital, Liverpool) was made for special operative treatment.

The non-pulmonary cases have been admitted to Calgarth (children) or Oswestry (adults).

One "mixed " case is in Wrightington Hospital.

			In Institutions on Jan. 1.	Admitted during the year.	Discharged during the year	Died in the Institution	In Insti- tutions on Dec. 31.
Number of Patients.	Adults	M.	6	22	12	1	15
		F.	12	17	7	6	16
	Ch'd'n		1	2	2	—	1
Number of Observation Cases.	Adults	M.	1	—	1	—	—
		F.	—	2	2	—	—
	Ch'd'n		—	1	1	—	—
Total			20	44	25	7	32

The sanatorium laboratory has remained at the service of the county practitioners, and 123 specimens have been examined and reported on.

Though Kendal is quite a good centre for the more densely populated areas of the county, there are many sparsely populated regions further afield which result in considerable numbers of domiciliary visits being required, and, during 1947, 243 such visits were made.

The domiciliary visitation of patients by the District Nurses continues to work satisfactorily and is, to my mind, a better way than having a special Tuberculosis Health Visitor. To all the District Nurses, and especially Nurses Williams and Brigg, who carry out the Kendal and Appleby dispensary services, my thanks for their continued help.

And I must also acknowledge the help and co-operation of the practitioners in making the County Tuberculosis Scheme effective.

I am,

Your obedient Servant,

J. MUNRO CAMPBELL,

Medical Superintendent and Clinical

Tuberculosis Officer.

BOVINE TUBERCULOSIS.

The Tuberculosis Order, 1938, is carried out by the Divisional Inspector of the Ministry of Agriculture and Fisheries, in co-operation with the County Police.

During the period 1st January to 31st December, 1947, 20 animals were slaughtered under the above Order as follows:—

Cows in Milk:—

- 5 suffered from tuberculous udders,
- 5 suffered from chronic cough,
- 2 suffered from emaciation.
- 3 excreting or discharging tuberculous material.

Other cows—

- 4 suffered from chronic cough,
- 1 suffered from tuberculous udders.

Compensation to owners is paid by the Ministry of Agriculture and Fisheries.

We desire to thank the Divisional Inspector for his ever-ready and valued help in investigating bovine tuberculosis.

BACTERIOLOGICAL AND BIOLOGICAL EXAMINATION OF MILK.

The systematic examination of milk samples for the bacterial count and for the presence of *Bacillus Tuberculosis* was commenced in November, 1932.

The following figures deal with the period 1st January, 1947, to the 31st December, 1947:—

BIOLOGICAL EXAMINATION OF MILK.

(For the presence of *Bacillus Tuberculosis*.)

Total Cows.	Samples reported on.		T.B.—Neg. Pos.	
2,580	...	122	...	121 1

BACTERIOLOGICAL EXAMINATION OF MILK.

(Methylene Blue Test for Cleanliness.)

		No. of	Satis-	Unsatis-	Neg.	Coliform		
	Total	bulk	fac.	fac-	for	Bacilli present		
Cows.	Samples.	tory.	tory.	B.Coli.	1 tube	2 tubes	3 tubes	
						in 1/100ml.		
Non-designated								
Producers	2,793	166	91	75	90	12	10	46

(Of the 166 samples taken 37 were repeat samples. Result: 19 satisfactory, 18 unsatisfactory.)

Twenty samples of pasteurised milk were tested by the Phosphatase Test and were all satisfactory with the exception of one sample which was grossly undertreated.

The regular supervision of Tuberculin Tested and Accredited Milk is carried out by the Agricultural Executive Committee.

The foregoing figures show that in the biological examination of milk for *Bacillus Tuberculosis*, of the 122 samples representing the milk from 2,580 cows, one sample was positive.

Immediately on receipt of a positive Laboratory Report on a sample, the Divisional Inspector is informed and makes arrangements for the examination of the herds involved, for the exclusion from the milk herd of any suspected cows, for the taking of individual samples from such cows for biological examination, and for a bulk sample being taken from the rest of the herd. Cows proved to be yielding the germ in their milk are destroyed.

A duplicate copy of the Laboratory Report on each sample is sent to the Medical Officer of Health of the Westmorland Combined Districts, who, through the various Sanitary Inspectors, informs the milk producer. Copies of unsatisfactory reports are also sent to the County Agricultural Organiser.

When an unsatisfactory report is received, steps are taken to encourage the producer in question to overhaul his methods of production and to secure cleaner milk. The active co-operation of the County Agricultural Organiser is invaluable here.

WATER SUPPLIES.

The following are extracts from Reports received from Dr. F. T. Madge, the Medical Officer of Health for the Westmorland Combined Districts:—

Appleby Borough Council.

The public water supply is adequate in quantity and satisfactory in quality. The source of the supply is at the foot of the Pennines from two natural springs at Bank Wood in the Parish of Hilton. Their yield is remarkably constant throughout the year and as they are very well protected there is no danger from surface contamination. The water is quite soft, having only 7 degrees of hardness, and is suitable for all domestic purposes. The storage capacity of the covered and ventilated reservoir is approximately 60,000 gallons. The site is enclosed and protected by a stone perimeter wall. The water is untreated.

The supply is by gravitation through 6-inch cast-iron mains, which supply 26 outlying farms in the parishes of Hilton and Murton en route. A service reservoir used only as a reserve supply is situated at Crotty within the Borough, with a capacity of 98,000 gallons.

The distribution system is laid on to the majority of the 506 houses in the Borough; 477 have water laid on, 10 houses in Holme Street are served by two standpipes, six cottages at Low Wiend are served by a standpipe, three houses in Factory Lane are served by a standpipe, three houses in Chapel Street have an external standpipe each, and four other houses in this street are served by one standpipe. Two farms and one dwellinghouse have private supplies.

The average daily consumption of water from the public mains is 98 000 gallons, which is equivalent to 54 gallons per head per day. This relatively high figure is due in part to waste.

Although the supply is adequate in quantity and satisfactory in quality, the level of the head works makes the pressure in the higher parts of the Borough rather poor. If development of this high land is contemplated in the future it will be necessary to consider boosting the supply.

Kendal Borough Council.

Kendal has an abundant water supply from both overground and underground sources and ample storage capacity in the reservoirs. There are only 45 houses in the Borough which do not obtain their water from the Corporation mains; 13 of these are connected to the Thirlmere aqueduct and the remainder are served by wells and surface water private installations.

The man reservoir at Fisher Tarn has a capacity of 117,996,000 gallons, Upper Birds Park Reservoir has a capacity of 3,000,000 gallons and Lower Birds Park Reservoir has a capacity of 14,784 gallons.

These three reservoirs, therefore, provide very generous storage capacity amounting during 1947 to half a year's supply. The highest stocks were in January, when there were 135,780,000 gallons, equivalent to 191 days' supply, and the lowest was in November, when there was 38,473,000 gallons, or 54 days' supply. The annual consumption was 260,523,000 gallons from all sources, giving an average of 38 gallons per head per day, including all industrial users.

The underground source of water is at Mints Feet, which is a shallow well near the bank of the River Kent on the North of the town. The well is 58 feet by 24 feet and 5 feet depth of water at rest level, with open-jointed stone linings and uncovered. It is liable to flooding by the River Kent in times of spate and it requires weeding twice a year.

The distribution system is mainly by gravity, but there is a booster at Beast Banks to improve the pressure in the Greenside area. There is a service reservoir fed from Fisher Tarn at Bolefoot, Oxenholme, with a capacity of 30,000 gallons.

Treatment by chlorination is carried out on all the supplies, with apparatus at Greyhound Farm, Birds Park and Mints Feet. Bacteriological examinations are carried out monthly and full chemical analyses are made half-yearly.

Lakes Urban District Council.

General.

The public water supplies are limited to three areas of the Urban District—Ambleside, Grasmere and Chapel Stile. The quality of the Ambleside and Grasmere supplies is satisfactory after treatment, but the Chapel Stile supply is variable.

Only Grasmere supply is unfailing in quantity. The Ambleside supply is generally adequate except in periods of drought, but this difficulty has now been overcome by a connection to the reservoir from the Thirlmere aquaduct of Manchester Corporation, which was used for the first time during the severe drought of 1947. The Chapel Stile supply runs very short in dry weather and proposals are in hand for an emergency additional source to be fed into this system.

Chapel Stile.

A scheme is in course of preparation for an emergency supply of water to be pumped from a sump hole in the valley gravel bed near New Bridge into the rising main of the Meg's Ghyll system. This water will be chlorinated and mixed with the water from the other source.

It is probable that this ancillary supply will be required only in times of extreme drought, but I see no reason why it could not be used for meeting any increased demand caused by extension of the present system of mains. A major scheme for both the Langdale Valleys is also under consideration and, if it is adopted, it will supersede Meg's Ghyll and the emergency ancillary supply.

The Rural Housing Survey completed during the year revealed the following conditions in the rural parishes outside Ambleside and Grasmere. Of the houses of a rateable value of £22 or under the percentage of houses without internal water supply was:—

Patterdale	...	...	52 per cent.
Langdales	...	...	49 per cent.
Troutbeck	...	...	23 per cent.
Rydal and Loughrigg	...	...	13 per cent.

Outside the areas of the public water supplies conditions are generally poor. There are a few small privately-owned systems of varying quantity and unknown quality and the rest of the District relies upon becks, small runners, superficial springs and surface drainage catch pits, unreliable in yield and many of very undesirable quality.

The Council are fully aware of this bad general water supply situation and have commenced the preparation of schemes for improving the worst areas of Patterdale, Troutbeck and the Langdales.

Windermere Urban District Council.

The public water supply is adequate in quantity and fairly satisfactory in quality. There are two sources of supply; one is from the catchment area on Applethwaite Common with the Dubbs Reservoir and the other is from the catchment area in and around Great Tower Plantation on Cartmel Fell with the Ghyll Head Reservoir. Water may also be obtained in emergency from the Thirlmere Aqueduct of Manchester Corporation for feeding into the supply system.

Chemical Laboratory Examinations.

The past series of results show that the free and saline ammonias are consistently high for an upland surface water; they are above 0.001 parts per 100,000, but have not exceeded 0.005 parts. This result, when considered with albuminoid ammonia figures often around 0.008 parts reflects the occurrence of animal contamination. Nitrites have been absent and nitrates have not been excessive. Chlorides have ranged between 1.0 and 1.4 parts. The oxygen absorption has shown wide variations, as would be expected, but on one occasion only has it slightly exceeded 0.1 part per 100,000.

There are no records of previous tests for plumbosolvency, but one carried out in June, 1947, showed no action.

Ghyll Head Reservoir has a storage capacity of 27,000,000 gallons and serves a population of approximately 3,000. Even at the present demand of 45 gallons per head per day the storage period of the water is greatly in excess of three weeks and, therefore, it must have a very marked purifying effect.

Treatment.

The water is filtered through Bell's pressure filters and it is treated with lime to increase the alkalinity to a pH of about 8. A chlorination apparatus is installed at the Filter House but is not normally used.

Bacteriological Laboratory Examinations.

Coliform organisms have been present in both the raw and the treated waters in numbers varying over a wide range. Both waters have shown coliform organisms present in 20 millilitres at some examinations and entirely absent at others. This is to be expected in upland surface supplies from grazed catchment areas and the wide fluctuations are due to the effect of varying rainfall.

Differential counts at 22 and 37 degrees indicate that the organisms are predominantly of non-faecal origin, although the presence of faecal types is an indicator of the potential risks.

Chemical Laboratory Examinations.

The results have been invariably satisfactory. There have been occasions when the nitrites and oxygen absorption have been slightly in excess of the accepted maxima and as these occasions have coincided with high coliform counts, they reflect the washing down of surface debris after moderate or heavy rain.

Plumbosolvency estimations of the raw water over a 24-hour period have shown 0.15 parts per 100,000 of lead. The hydrogen ion concentration of the raw water has been between pH 6.3 and pH 7.5, and such acidity is corrected by treatment with lime to achieve a pH of about 8, which reduces the plumbosolvency tendency.

Recommendations.

I have made similar detailed recommendations to your Water and Health Committees upon the measures which I advise for safeguarding. Special attention was given to the serious risks entailed by camp-

ing near the main runners and at the year end negotiations were in hand with the Ulverston Rural District Council and the Boy Scout Association. Provided that the outcome of this matter is satisfactory and provided that reasonable precautions are taken I do not consider that this water supply is likely to be a danger to the public health from waterborne diseases.

I recommend that the chlorination apparatus be maintained in a serviceable condition in case it may be required.

I reserve comment on distribution until I have had personal knowledge of the condition of the system.

I advise that routine laboratory testing of both the raw and treated water should be carried out more frequently than has hitherto been practised.

I advise that the bacteriological tests for coliform organisms should be done monthly throughout the year and that a full chemical examination should be made at six-monthly intervals.

In conclusion, I have to advise your Council that the other recommendations contained in Memorandum 221 of the Ministry of Health should be implemented as soon as possible. Your Council has the double responsibility of supplying pure water as undertakers and of safeguarding the health of your population as a Sanitary Authority.

The Water Engineer informs me that the number of houses connected to the public supply is about 1,900, which leaves 138 reliant upon private supplies. There are stated to be no houses supplied from standpipes. No extension schemes are contemplated at present.

I have no official knowledge of the quantity or quality of the private water supplies, but I suspect that the quality of the average supply fluctuates widely, and I can do no more than warn the users that they drink it at their own risk, that they should have it tested for purity at regular intervals and that, if in doubt, they should boil it.

North Westmorland Rural District Council.

The Water Supply to this District is derived from many sources. The principal source of public supply is that from the Regional Scheme at Blea Water, the mains from which extend into 25 of the 52 parishes.

The Council controls and maintains other sources of supply in a further 26 parishes. A considerable portion of this District is depen-

dent upon individual private supplies from wells, springs, stored rain water or water courses. Martindale and Mallerstang have no public water supply. Many houses in Hartley, Ravenstonedale and Stainmore are supplied from the private system installed in those three areas.

The quality of the public supplies is indifferent, as will be seen from the results of laboratory examinations and chemical analyses carried out during the year. We are undertaking a personal investigation of all these 20 sources of public supply and any others we discover. We have no official knowledge of the quality of the myriad of private supplies, but I suspect that many of them are unsatisfactory in quality and very variable in quantity. I can do no more than warn the users that they drink it at their own risk and that they should have it tested for purity at regular intervals and, if in doubt, they should boil it.

Barton Supply.

This source of supply is from springs on Barton Fell which are screened before the water enters the storage reservoir. The parishes supplied are Barton, Sockbridge, Tirril, Yanwath and Eamont Bridge. The quality is fair.

Orton Supply.

Supply is upland surface water from Churn Ghyll on Langdale Fell. The water is screened and distributed in the parish of Orton, with the hamlets of Kelleth, Raisbeck and Greenholme. There is ample water at the headworks, but the number of consumers served from the 3-inch main before it reaches the balancing reservoir east of Orton Village causes very little margin to be left for extra demands or leakages, and the higher points on the system quickly suffer from shortage. Investigations are proceeding to overcome these difficulties. The quality is fair.

Tebay Supply.

The source is the same as that for Orton and the parish of Tebay with Langdale and Gaisgill are supplied with the water after screening. The quality is fair.

Shap Supply.

Supply is obtained from upland surface sources at Force Beck. The water is passed through a gravitation slow filter of very doubtful efficiency and the bacteriological results are very poor on account of animal manurial contamination upstream. This supply needs revision.

Wickersgill Supply.

This is a small scheme supplying the houses near the Shap Granite Works. The source is upland surface water from a moorland beck. There is a small reservoir and a sand filter. The bacteriological results are indifferent.

Kirkby Stephen Supply.

The source is from springs at Cold Keld in Kaber Parish. There are settling tanks and screens and the water is chlorinated before distribution to Kirkby Stephen, Winton and part of Hartley. The water is subject to periodical discoloration after wet weather. The quality of the treated water is satisfactory.

Kaber Supply.

This supply comes from a spring on the fells near Rookby in the parish of Kaber. There are settling tanks and screens. The quality of the water is variable.

Brough Supply.

The source of this supply is from springs at Thornthwaite in Hillbeck Parish and the distribution is to Hillbeck, Brough, Brough Sowerby and part of Stainmore. There are settling tanks and screens. The quality is liable to be poor bacteriologically.

Warcop Supply.

A spring near Habergill furnishes the supply to the parish of Warcop, except the Bleatarn area. There are screens and settling tanks. The quality of the supply is fair.

Bleatarn Supply.

The Bleatarn area of Warcop parish is supplied from a spring near Bleatarn village. There are settling tanks and screens. The quality at the last test was good.

Ormside Supply.

The source is a spring at Heights and supplies the parish of Ormside. There are settling tanks and screens. The quality of the water is indifferent bacteriologically.

Hilton Supply.

A spring on the fells near Scordale supplies the Hilton area, of Murton parish. There are settling tanks and screens. The quality of the water is indifferent.

Murton Supply.

This source is from a spring on the fells near Murton. There are settling tanks and screens. The bacteriological quality of the water is poor.

Dufton Supply.

The water comes from a spring nearly Keisley. There are settling tanks and screens. At the last test the water was of fair quality.

Longmarton Supply.

This is a mixed supply from two sources, one spring at Dufton Pike and one spring at Close Houses. There are screens and settling tanks. The parishes of Longmarton and Crackenthorpe are supplied. The quality of the water is fair.

Kirkby Thore Supply.

Springs at Marble Scar in the parish of Milburn form the source of the supply to Kirkby Thore and Milburn. There are settling tanks and screens. The quality of the water is fair.

Temple Sowerby Supply.

This supply comes from a spring at Newbiggin Mill near Milburn. The source is bad as it is liable to flooding with polluted beck water.

Newbiggin-on-Lune Supply.

Upland surface water from a beck at Swarth Ghyll forms the supply to the Newbiggin area of the Parish of Ravenstonedale. There are settling tanks and screens. The quality of the water is fair.

The poor and indifferent bacteriological results are in the main due to the upland gathering grounds being grazed by stock with the consequent manurial contamination of the water after rainfall. The bacterial counts fluctuate widely according to climatic conditions, and as most of your public waters are untreated the contamination tends to be a nuisance in laboratory control rather than any particular danger to the consumers. Certain sources, however, require close investigation and supervision against possible human pollution. I hope to make a comprehensive report on all the water supplies within the next two years when I have accumulated enough data to assess the limits of the fluctuations in quality.

Proposed Future Water Schemes.

This Council has forwarded various schemes under the Rural Water Supplies and Sewerage Act, 1944. Since terms have been agreed for the acquisition of more water from Manchester Corporation's Haweswater source it will be possible to extend the Regional Scheme to supply further areas in the Eastern Division of this District. This Council's Consulting Engineers have recommended extension of the filtration works, the laying of mains from Swindale filter house through Shap, Orton and out through Newbiggin-on-Lune to Kirkby Stephen. This would form a comprehensive scheme for the southern part of this District.

At a later stage the Engineers recommend the laying of another main eastwards from Shap through Appleby and Brough to form with the southern branch a complete ring main which will cover almost the whole of the Rural District. It appears unlikely that the scheme will be sanctioned for a considerable time on account of the present economic difficulties.

New supplies to serve Ravenstonedale, Newbiggin-on-Lune and the villages of Outhgill and Shoregill in Mallerstang parish are planned.

Improvements are planned to improve the Kirkby Stephen supply by the addition of settling tanks and filters.

Improvement of the Brough supply is planned by the addition of another spring.

Improvement of the Longmarton supply is planned by the addition of another spring.

Improvement of the Kirkby Thore and Temple Sowerby supply is planned by the addition of another spring.

Consideration has also been given to the replacement of the supplies to the villages of Hilton and Murton by a new supply from Gasdale Beck.

The Orton Scheme is being investigated with a view to overcoming the supply difficulties.

On account of the economic state of the nation, and for various reasons outside the control of this Council, little progress has been made during the year towards getting any of these schemes sanctioned.

South Westmorland Rural District Council.

The water supply to your District is derived from many sources. The principal source of public supply is from your Lupton reservoirs, the mains from which extend into 15 parishes in the southern part of your area.

Your Council controls and maintains other sources of supply in a further nine parishes. The Thirlmere aqueduct of Manchester Corporation passes through your District and connected to it are some houses in the ten parishes along its route. In three parishes some of the houses draw supplies from the mains of Kendal Corporation.

The principal supply of three parishes and a supplementary supply in one parish are owned by commercial undertakings. A considerable portion of your District is dependent upon individual private supplies from wells, adits, springs, stored rain water or small water courses. No public or organised private supply whatever is available in 16 parishes.

The Rural Housing Survey completed in June 1946 detailed the number of houses served in each parish and as some changes have occurred since then the present situation has been reviewed.

Briefly summarising the results as percentages of the total number of houses, I estimate that:—

Supply laid on to house.

Public Supply	...	59.0 per cent.
Commercial Supply	...	5.5 per cent.
Private Supply	...	23.5 per cent.
		<hr/>
		88.0 per cent.

Supply not laid on to house.

Public Standpipe	...	2.5 per cent.
Commercial Standpipe	...	0.1 per cent.
Private Water Point	...	9.4 per cent.
		<hr/>
		12.0 per cent.

The Lyth Valley area is particularly badly supplied with water, being dependent upon unreliable springs of very hard water from the limestone formation, or seriously contaminated shallow catchpits in

the valley bottom. It is hoped that your Lupton supply will be extended to this area as soon as the sanction of the Ministry of Health is received.

The quality of the public water supplies is generally good with the exception of Barbon, Casterton and Natland.

The following is a brief review of your Council's public water supplies:—

Lupton Supply.

The parishes supplied are Arnside, Beetham, Heversham, Preston Patrick, Preston Richard, Sedgwick, Stainton, Hincaster and Helsington.

The water is filtered through Bell's pressure filters and chlorinated before distribution into the mains system. The reservoir is used for fishing under your Council's licence. The quality of the treated water is good.

Staveley Supply.

The parishes supplied are Hugill, Nether Staveley and Over Staveley. The source is spring water from a disused mine working in the Kentmere Valley. The water is untreated and is good in quality.

Kirkby Lonsdale Supply.

The source is from a water-bearing gravel bed at Fleet. The quantity of the supply has been abundant for some 70 years and the quality has been good except for plumbosolvent tendencies. The water passes untreated to the consumers.

Casterton Supply.

The source is from springs; the quality is indifferent and the water is untreated. I propose to make a detailed investigation of this supply.

Barbon Supply.

The source is from springs; the quality is intermittently bad and the water is untreated. I propose to make a detailed investigation of this supply.

Natland Water.

This area can be supplied from the Thirlmere main, but normally reliance has been placed upon local springs which are fed to a storage reservoir. The springs are bacteriologically bad, they are so sited that there is risk of human pollution and the open reservoir is seriously polluted. I have condemned this supply as unfit for human consumption unless the water is chlorinated and the reservoir is suitably covered. It is hoped that the sanction of the Ministry of Health will be obtained for the extension of your Lupton supply to Natland.

Grayrigg Supply.

The source is upland surface water from uninhabited fell grazing ground some 57 acres in extent, none of which is owned by your Council. The water is collected in a small tank and is untreated. The quality is fair.

Burneside Supply.

This private commercial supply has its source in upland surface gathering grounds on Potter Fell. The quality of the water at the last test was good. The water is untreated.

Garth Row.

This small scheme is upland surface water which was good in quality at the last test.

Garnett Bridge.

This small scheme is upland surface water which was good in quality at the last test.

Those supplies which show poor or indifferent bacteriological results are in the main due to the upland gathering grounds being grazed by stock, with the consequent manurial contamination of the water after rainfall. The bacterial counts fluctuate widely according to the climatic conditions, and as most of your public waters are untreated the contamination tends to be a nuisance in laboratory control rather than any particular danger to the consumers. Certain sources, however, require close investigation and supervision against possible human pollution. I hope to make a comprehensive report on all your water supplies within the next two years when I have accumulated enough data to assess the limits of the fluctuations in quality.

Proposed Future Water Schemes.

Your Council proposed to extend the Lupton supply to the Lyth Valley area, including Witherslack, How, Row, Crosthwaite, Underbarrow and Brigsteer, with a later extension boosted up to the Crook district. The scheme is awaiting the sanction of the Minister of Health. This scheme is most urgently needed for the convenience of the inhabitants and for cleaning up the present obsolete sanitary arrangements.

Your Council propose to increase the supply of water to the Lupton system by impounding water in an enlarged reservoir at Wyndammere, but these plans are only in a preparatory stage as alternative sources are being explored.

Various minor extensions and improvements were carried out during 1947 and similar work is planned for 1948.

PUBLIC HEALTH (VENEREAL DISEASES) REGULATIONS, 1916.

Westmorland cases treated at the following Centres for the year ended 31st December, 1947, are as follow:—

NEW CASES.

Centre.	Syphilis.	Soft Chancre.	Gonorrhoea.	Non- venereal & undiagnosed conditions.	Total No. of attend- ances of all patients residing in Westmor- land.
Lancaster	... 12	—	15	19	305
Preston	... —	—	1	3	10
Carlisle	... 5	—	2	7	88
	—	—	—	—	—
Total ...	17	—	18	29	403
	—	—	—	—	—

This is independent of cases treated by patients' own doctors.

All applicants, before admission to St. Monica's Maternity Home, Kendal, for unmarried mothers, have the Wassermann Test applied. Should any prove positive they are admitted to the Hope Hospital, Leeds, for appropriate treatment. No patients were admitted to this Hospital during 1947.

In 1947 217 blood specimens were sent to the Public Health Laboratory, Manchester, of which 21 were positive, 189 negative and seven doubtful. Drugs were supplied to private practitioners where required.

Regulation 33B.

For the year ending 31st December, 1947, two single references and two double references were received under Regulation 33B. In the case of the two double references the Statutory Notices were served and the cases were treated and cured. In the case of the two single references, these were investigated by the Social Worker. One case was proved to be negative and the other case attended for treatment.

In Ministry of Health Circular 5/48, of the 5th January, 1948, it was pointed out that under the Emergency Laws (Transitional Provisions) Act, 1946, and the Emergency Laws (Miscellaneous Provisions) Act, 1947, Defence Regulation 33B, concerning the compulsory treatment of venereal diseases in certain cases, expired on the 31st December, 1947, and the procedure for which the Regulation provided will consequently no longer operate.

MENTAL AND NERVOUS DISORDERS CLINIC.

This clinic was commenced at the Fellside Dispensary, Kendal, on Thursday, the 30th November, 1944, and thereafter fortnightly from 11 a.m. to 1 p.m. and from 2 p.m. to 4 p.m. The clinic is being conducted by Dr. Joseph Braithwaite, M.B., D.P.M., Superintendent of the Cumberland and Westmorland Mental Hospital, Garlands, Carlisle. Dr. Braithwaite advises:—

1. As to whether the patients would benefit by institutional treatment, either on certificate or voluntarily,
2. As to whether he can help by seeing patients regularly at the clinic over a period.

Dr. Braithwaite reports as follows with regard to the attendances at the Kendal Clinic during the year 1947:—

New cases seen—50 (23 males and 27 females).

Suffering from:—

Psychoses	...	...	25
Mental Deficiency	...	...	2
Neurosis of various types	...	...	19
Behaviour difficulty in children	...	...	1
No psychological illness	...	...	3
Total number of attendances—138.			

RATS AND MICE (DESTRUCTION) ACT, 1919.

Mr. Holdsworth, Rodent Operative, and his Assistant, have been fully occupied during the year 1947. 357 operations have been carried out and the estimated number of rats killed was 2,066 and mice 1,349. 53 Annual Contracts have been entered into, totalling a sum of £276 12s. 0d. The sum of £15 9s. 0d. has been received for non-contract work.

EMERGENCY MEDICAL SERVICES.

CIVIL NURSING RESERVE.

The numbers serving at the end of 1947 were as follows:—

Trained Nurses	...	...	2
Assistant Nurses	...	...	2
	Mobile	Immobile	Immobile
	Whole-time.	Whole-time.	Part-time.
Nursing Auxiliaries ...	5	3	35